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10/681,585

10/07/2003

Jarmo Lehtonen

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7590

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EXAMINER

SHIH, HAOSHIAN

ART UNIT

PAPER NUMBER

2196

DATE MAILED: 11/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/681,585

Applicant(s)

LEHTONEN, JARMO

Examiner

Haoshian Shih

Art Unit

2196

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/07/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Claim 1-16 are pending in this application and have been examined.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 – 5, 7, 9, and 11 – 16 are rejected under 35 U.S.C. 102(b) as being unpatentable over Inukai (US Pub 2001/0015720 A1) hereafter Inukai.
4. As to claim 1, Inukai discloses an apparatus for use in providing user inputs to a communication or computing device, characterized by: an input button (Fig 8, #1) lying in or on a surface of the communication or computing device and having a receptacle (Fig2, #3a; [0036], line 12 - 13) for receiving a distal end of an indicator instrument (Fig 8, #22; [0036], line 4 - 6), for moving or deforming in response to a force exerted on the input button ([0058]) using the indicator instrument; and means or detecting the force exerted on the input button ([0035], line 1 - 5) based on the moving or deforming of the input button in response to the force, and for providing a signal corresponding to the force ([0035], line 1 - 5).

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5. As to claim 11, Inukai discloses a method for acquiring user inputs to a communication or computing device, characterized by: having a receptacle (Fig 2, #3a; [0036], line 12 - 13) of an input button (Fig 8, #1) lying in or on a surface of the communication or computing device receive a distal end of an indicator instrument (Fig 8, #22; [0036], line 12 - 15); and having the input button move or deform in response to a force or a force couple exerted on the input button via the distal end of the indicator instrument ([0058], line 4 - 6)

6. As to claim 2, Inukai discloses an apparatus wherein the means for detecting the force exerted on the input button comprises a strain sensor ([0038], line 25 - 27).

7. As to claim 3, Inukai discloses an apparatus wherein the means for detecting the force exerted on the input button comprises a sensor that transmits a signal corresponding to the force at least in respect to the direction of the force ([0060], line 6 - 10).

8. As to claim 4, Inukai discloses an apparatus, wherein the means for detecting the force exerted on the input button comprises a sensor that transmits a signal corresponding to the force at least in respect to the magnitude of the force ([0060], line 6 - 10).

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9. As to claim 5, Inukai discloses an apparatus, wherein the means for detecting the force exerted on the input button comprises a sensor that transmits a signal until the force is removed ([0057], line 1-5; [0060], line 6 - 10).

10. As to claim 7, Inukai discloses an apparatus, wherein the input button moves or deforms so as to communicate a force lying along the surface of the communication or computing device ([0058]).

11. As to claim 9, Inukai discloses an apparatus, wherein the input button moves or deforms so as to communicate a force couple tending to cause a change in pitch of the input button relative to the surface of the communication or computing device ([0058], the word "pitch" is being interpreted as a form of deformation of the input button).

12. As to claim 12, Inukai discloses a method, wherein the moving or deforming of the input button is a sliding motion ([0058], line 3-5; the deformation of the cross area 7 represents a sliding motion).

13. As to claim 13, Inukai discloses a method, wherein the moving or deforming of the input button is a rocking motion ([0058], line 3-5; the side to side deformation of the cross area 7 represents a rocking motion).

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14. As to claim 14, Inukai discloses a method of moving or deforming of the input button, the moving or deforming of the input button is a motion into or out of the surface of the communication or computing device([0056], line 7-10).

15. As to claim 15, Inukai discloses a method, wherein the moving or deforming of the input button is a motion substantially in the plane of the surface of the communication or computing device ([0056], line 7 – 10).

16. As to claim 16, Inukai discloses a method, wherein the indicator instrument is used to provide user inputs that would otherwise be provided using a keyboard ([0004], line 3 –5).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 6, 8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inukai in view of Burry et al. (US Patent 6,239,786 B1) hereafter Burry.

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19. As to claim 6, Inukai discloses an apparatus, where in the input button moves or deforms as to communicate to the means for detecting the force exerted on the input button corresponding to a user action ([0058], [0060]), Inukai does not specifically disclose the user action selected from the set consisting of clicking, scrolling, selecting, pointing, cursor positioning, key pressing or typing, and joystick manipulating.

In the same field of endeavor, Burry discloses detecting the force exerted on the input button a signal (col 5, line 54 – 60) corresponding to a user action selected from the set consisting of clicking, scrolling, selecting, pointing, cursor positioning, key pressing or typing, and joystick manipulating (col 3, line 15 – 20; the X, Y plan movements and the “clicking” Z plan movements are involved in the described user actions; col 1, line 28-34 controlling the positioning, movement and operation of the cursor on the display screen).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Inukai and Burry in order to enhance and expand the functionality of the input button to respond to a variety of user actions.

20. As to claim 8, Inukai discloses an apparatus wherein the input button moves or deforms ([0058]). Inukai does not disclose a force directed orthogonally to the surface of the communication or computing device.

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In the same field of endeavor, Burry discloses an apparatus wherein a force directed orthogonally to the surface of the communication or computing device (col 3, line 31-33).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Inukai and Burry in order to allow dual control by using only one finger (Burry, col 2, line 49 –51)

21. As to claim 10, Inukai does not disclose an apparatus, wherein the input button and means for detecting the force exerted on the input button are in combination provided as a box-in-box construction including an outer box and an inner box, the inner box having a receptacle formed so as to allow inserting into it a distal end of the indicator instrument, and the outer box having sensing means responsive to forces applied to the inner box via the distal end of the indicator instrument, for providing a corresponding signal indicating a user input.

In the same field of endeavor, Burry discloses an apparatus, wherein the input button and means for detecting the force exerted on the input button are in combination provided as a box-in-box construction including an outer box and an inner box, the inner box having a receptacle formed so as to allow inserting into it a distal end of the indicator instrument (col 7, line 47 - 50), and the outer box having sensing means responsive to forces applied to the inner box via the distal end of the indicator

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instrument, for providing a corresponding signal indicating a user input (col 7, line 35 – 36).

Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teaching of Inukai and Burry to provide a device to control the operations on a display screen in place of other input devices such as a mouse (Burry, col 3, line 15 – 20).

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure.

Teraoka; Hideyuki US Pat. 7040182 Stress sensor

Selker; Edwin Joseph US Pat. 7040182 Six-degrees-of-freedom movement sensor having strain gauge mechanical supports

VandenBoom; Robert M. US Pat. 6331849 Integrated surface-mount pointing

Mochizuki, Isao et. al. US Pub. US 20040027331 A1 Pointing device and electronic apparatus provided with the pointing device

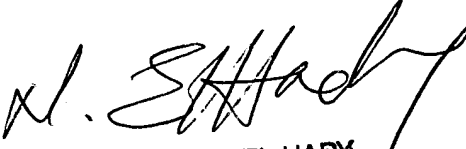
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23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Haoshian Shih whose telephone number is (571) 271-1257. The examiner can normally be reached on m-f 0730-1700.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nabil El-Hady can be reached on (571)272-3963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HSS


NABIL M. EL-HADY
SUPERVISORY PATENT EXAMINER